

REMARKS

In the Office Action, the Examiner rejected claims 1-4,8,11-17, 19-29, 31-34 and 37-43 under 35 USC 102 and claims 18 and 35 under 35 USC 103. These rejections are fully traversed below.

Claims 1-4, 8, 11-29, 31-35 and 37-43 are pending in the application. Reconsideration of the application is respectfully requested based on the following remarks.

Response to Examiner's Arguments

Rosenberg is directed to force feedback wheels or knobs. In particular, applying a force to a wheel or knob in response to a user action. The force provides a physical sensation to the user manipulating the wheel or knob. *Rosenberg* provides two examples of well known devices that have wheels or knobs. As discussed on page 10, *Rosenberg* discloses a mouse 12 including buttons 15 and a mouse wheel 16. The wheel 16 partially protrudes from an aperture in the housing of the mouse and rotates about an axis oriented in the x-direction as shown in Fig. 1. As discussed on page 15, *Rosenberg* also discloses a handheld remote control device 50 including a control knob 54. The control knob 54 is oriented with an axis of rotation approximately perpendicular to the surface of the remote control. It should be emphasized that these devices are first mentioned in the background since they are well known devices. *Rosenberg* uses these exemplary devices to set-up his invention, which has to do with providing force feedback to the existing rotating controls NOT inventing input devices with new controls.

Unlike the mouse of *Rosenberg*, the present invention is directed at a mouse with a rotary dial including an engageable face. This particular arrangement overcomes problems with scroll wheels of conventional mice, which are described in both *Rosenberg* and the background of the present invention. In fact, the Examiner is urged to review the background of the present invention, particularly page 2 and 3. As stated therein, the scroll wheel has several drawbacks including among others, only providing a single finger position for accessing the scroll wheel, not allowing continuous rotation of the wheel, helping to cause inadvertent or accidental scrolling because of the protruding wheel, providing a wheel whose use is counter intuitive since it can only be manipulated in one direction, etc. The rotary dial of the present invention addresses these problems and then some. For one, a substantial portion of the rotary dial is

accessible to the user, i.e., the rotary dial provides a large surface area for manipulation thereof. For another, the rotary dial can be continuously rotated by a simple swirling motion of a finger, i.e., the disc can be rotated through 360 degrees of rotation without stopping. Furthermore, the user can rotate the dial tangentially from all sides thus giving it more range of finger positions than that of a traditional scroll wheel. For example, a left handed user may choose to use one portion of the dial while a right handed user may choose to use another portion of the dial. In essence, the mouse is more ergonomic. Moreover, the rotary dial does not protrude out of the mouse thus reducing the amount of accidental scrolling while making the mouse more aesthetically pleasing. In addition, the rotary dial allows an intuitive way to scroll on a display screen. For example, the user can manipulate the dial side to side for horizontal scrolling and the user can manipulate the dial backwards and forwards for vertical scrolling.

In the last Office Action, the Examiner maintained his rejections, and stated that he disagrees with the Applicants argument that *Rosenberg* makes no mention to placing a knob 54 on the mouse 12 because *Rosenberg* teaches that the knob 54 can be used alternately in the mouse, remote control, etc. In support of this, the Examiner referenced page 16, lines 1-4 and page 20, line 37-page 21, line 2, which are reproduced below:

Remote control 50 also includes a control knob 54 (which is also considered a "wheel" as referenced herein). Knob 54 can be oriented with an axis of rotation approximately perpendicular to the surface of the device 50 as shown in Fig. 3a. Alternatively, the knob 54 can be oriented similarly to the mouse wheel 16 with the axis of rotation approximately parallel to the device surface [page 16, lines 1-4]

User object 32 is preferably a mouse but can alternatively be a joystick, remote control, or other device or article as described above [page 20, line 37-page 21, line 2]

The applicant respectfully disagrees with the Examiners position. While *Rosenberg* may state that the control knob 54 can be oriented similarly to the mouse wheel 16 [page 16, lines 1-4], he does not teach or suggest a mouse wheel 16 that can be oriented similarly to the control knob 54. That is, *Rosenberg* does not disclose a mouse wheel that is oriented with an axis of rotation approximately perpendicular to the surface of the mouse housing. The most that can be said is that wheel 16 is provided in a Y-orientation and rotates about an axis oriented in the x-direction as shown in Fig. 1, or that the wheel is provided in an x-orientation that rotates about a

Y axis [see page 10, lines 30-33]. *Rosenberg* simply provides no motivation to use a knob on a mouse and therefore the rejection should be withdrawn.

Claim Rejections – 35 USC 102 and 103

Claims 1-4, 8, 11-17, 19-29, 31-34 and 37-43 have been rejected under 35 U.S.C. 102(b) as being anticipated by *Rosenberg* et al (WO 99/49443).

In contrast to *Rosenberg*, claim 1 (and its dependents) specifically requires, "...a rotary dial positioned relative to an external surface of the mouse housing...the rotary dial rotating within a plane that is substantially parallel to the external surface of the mouse housing..." While *Rosenberg* may disclose a mouse 12 having a mouse wheel 16, *Rosenberg* fails to teach or suggest a mouse wheel 16 that rotates in a plane substantially parallel to the surface of the mouse 12. In *Rosenberg*, the mouse wheel 16 intersects the surface of the mouse 12 rather than being parallel to the surface of the mouse 12. *Rosenberg* states, "...Typically, wheel 16 is provided in a Y-orientation and rotates about an axis oriented in the X-direction as shown in Figure 1, where the wheel controls vertical (Y-direction) motion of a graphical object displayed by the host 18. In other embodiments, a wheel can be provided in an X-orientation that rotates about the Y-axis...(Page 10, lines 30-33)." In both of these configurations the mouse wheel 16 cuts through the plane of the mouse. With regards to knob 54, no mention is made to placing knob 54 on the mouse 12. Rather, the knob 54 is placed on a remote control 50 or gamepad controller 60. Neither of these devices can be considered a mouse. Accordingly, the rejection is unsupported by the art and should be withdrawn.

Also in contrast to *Rosenberg*, claim 1 (and its dependents) specifically requires, "...the rotary dial having an engageable face for allowing a user to facilitate rotation of the rotary dial, the engageable face being completely exposed to the user ..." In *Rosenberg*, a portion of the mouse wheel 16 is always positioned within the mouse 12 and therefore its not completely exposed to the user. See for example, Fig. 1, which shows the non exposed portions of mouse wheel 16 using hidden lines. With regards to knob 54, *Rosenberg* offers no suggestion or motivation to place it on the mouse 12. Accordingly, the rejection is unsupported by the art and should be withdrawn.

The rejection to claim 12 (and its dependents) should be withdrawn for similar reasons. *Rosenberg* fails to teach or suggest, "...a disk coupled to the mouse housing...the disk having a touchable surface for rotating the disk about an axis, the touchable surface being completely accessible to a finger of the user such that the disk can be continuously rotated by the simple swirling motion of the finger," as required by claim 12. Again, user actuated portions of the mouse wheel 16 are disposed within the mouse 12 at all times thus making them inaccessible to the users finger, i.e., portions of the mouse wheel 16 are hidden beneath the mouse 12. Furthermore, *Rosenberg* does not show or describe a mouse with a knob 54. Accordingly, the rejection is unsupported by the art and should be withdrawn.

Also in contrast to *Rosenberg*, claim 20 specifically requires, "...a disk positioned relative to an external surface of the mouse housing, the disk being rotatably coupled to the mouse housing about an axis that is normal to the external surface of the mouse housing, the disk having a user input receiving surface for facilitating movements thereof about the axis..." While *Rosenberg* may disclose a mouse 12 having a mouse wheel 16 that rotates around an axis, *Rosenberg* fails to teach or suggest a mouse wheel 16 that rotates around an axis that is normal to the surface of the mouse 12 where it is positioned relative to the mouse. In *Rosenberg*, The wheel axis is parallel to the surface of the mouse. With regards to knob 54, no mention is made to placing knob 54 on the mouse 12. Rather, the knob 54 is placed on a remote control 50 or gamepad controller 60. Neither of these devices can be considered a mouse. Accordingly, the rejection is unsupported by the art and should be withdrawn.

Claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over *Rosenberg* in view of *McLoone et al* (US 2002/0158844).

Mcloone does not overcome the deficiencies of *Rosenberg*. Neither reference teaches or suggests, "...a disk coupled to the mouse housing...the disk having a touchable surface for rotating the disk about an axis, the touchable surface being completely accessible to a finger of the user such that the disk can be continuously rotated by the simple swirling motion of the finger," as required by claim 12 from which claim 18 depends. As shown in *Mcloone*, a portion of the scroll wheel 30 is housed within the housing 61 of the mouse 60 and thus the scroll wheel 30 is not completely accessible to a user's finger.

In addition, neither reference teaches or suggests, "...wherein the rotation of the disk causes the displayed data to move... the displayed data is moved vertically or horizontally...side to side manipulation of the disk corresponds to horizontal scrolling...forwards and backwards manipulation of the disk corresponds to vertical scrolling..." as required by claim 18 and its intervening claims 16 and 17. In *Mcloone*, the user rotates and laterally moves the wheel 40 relative to the keyboard housing 51 to produce vertical and lateral scrolling (Page 3, paragraph 36). Lateral movement of the wheel 40 according to the *Mcloone* includes both linear (i.e., axial) movement of the wheel 40 relative to the housing 51 and tilting or pivoting the wheel 40 in a lateral direction (Page 4, paragraph 37). Lateral movement of the wheel is not disk rotation and therefore the rejection is unsupported by the art and should be withdrawn.

Claim 35 has been rejected under 35 U.S.C. 103(a) as being unpatentable over *Rosenberg* in view of *Lin* (US 2002/0154090).

Lin does not overcome the deficiencies of *Rosenberg*. Neither reference teaches or suggests "...a disk positioned relative to an external surface of the mouse housing, the disk being rotatably coupled to the mouse housing about an axis that is normal to the external surface of the mouse housing, the disk having a user input receiving surface for facilitating movements thereof about the axis..." as required by claim 20 from which claim 35 ultimately depends.

Although the rejections to the dependent claims 2-4, 8, 11, 13-19, 21-29, 31-35 and 37 should be withdrawn for at least the reasons as above, it should be noted that they offer additional language that is unsupported by the art. For example, claims 19 and 32 require "...the mouse housing provides a clicking action for performing an action on a display screen..." *Rosenberg* does not teach or suggest a mouse housing that provides a clicking action. The most that can be said is that the mouse 12 includes buttons 15. These buttons however are mechanical buttons that are separate from the mouse housing. Accordingly, the rejection is unsupported by the art and should be withdrawn.

In addition, claim 27 specifically requires, "...wherein the user input receiving surface of the disk is substantially flush with a top external surface of the mouse housing." In *Rosenberg*, the scroll wheel 16 protrudes out of the mouse 12, and the knob 54 protrudes out of the remote control 50. See Figures 1 and 3A as well as the description on page 10, line 22 which states,

"The wheel as shown only partially protrudes from an aperture 13 in the housing of the mouse 12..." Accordingly, the rejection is unsupported by the art and should be withdrawn.

SUMMARY

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,

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